

FIG. 1

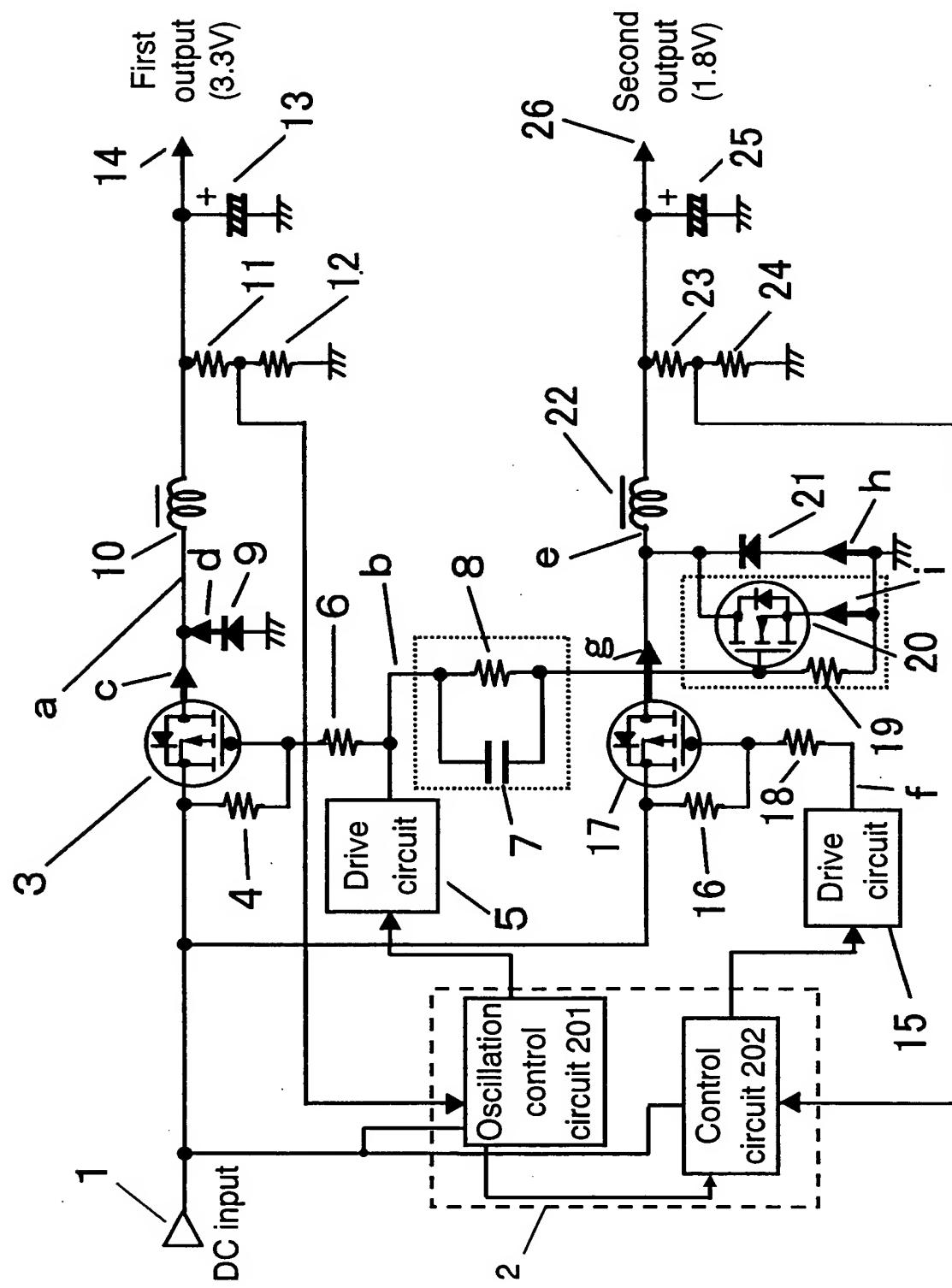
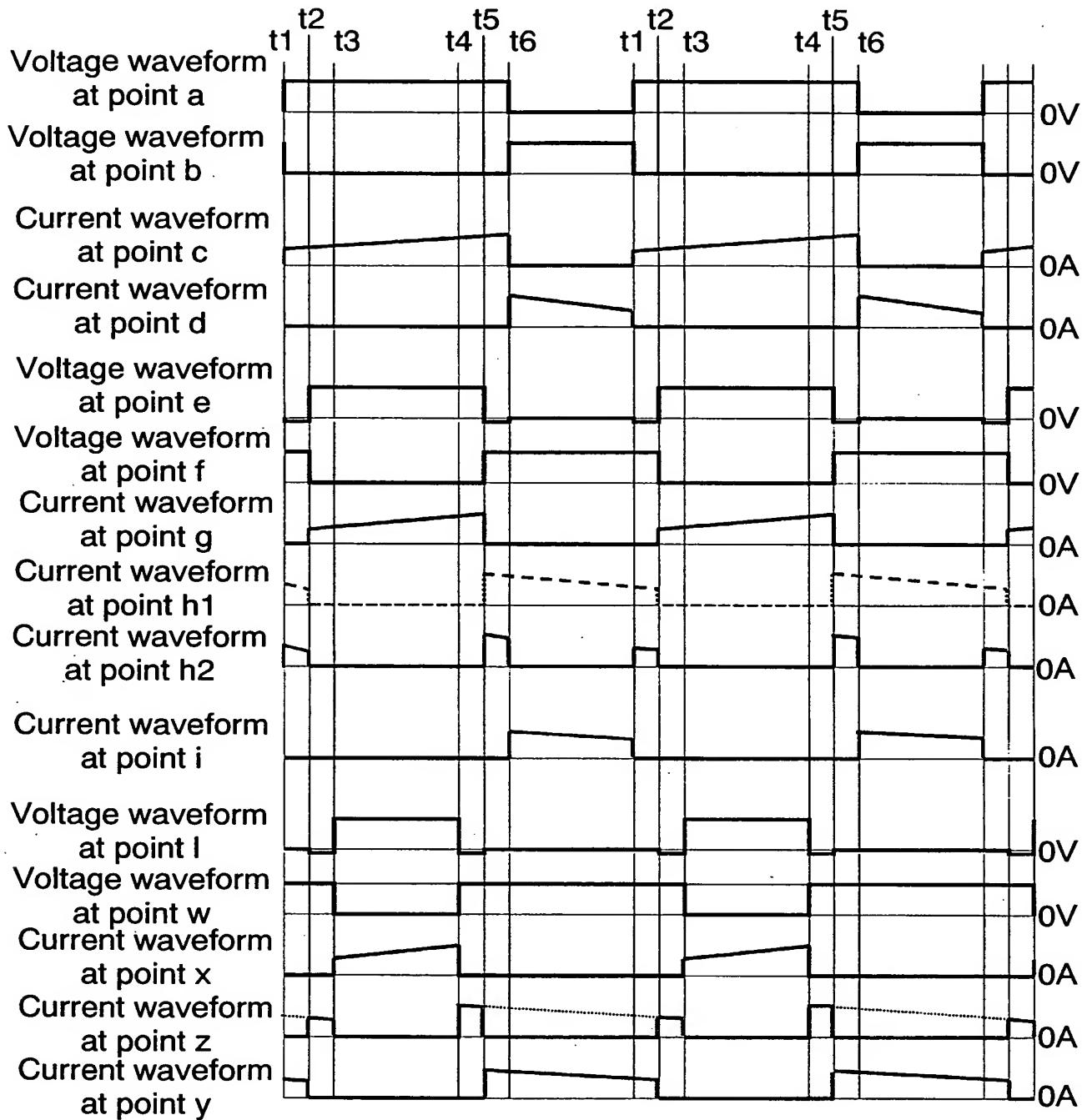
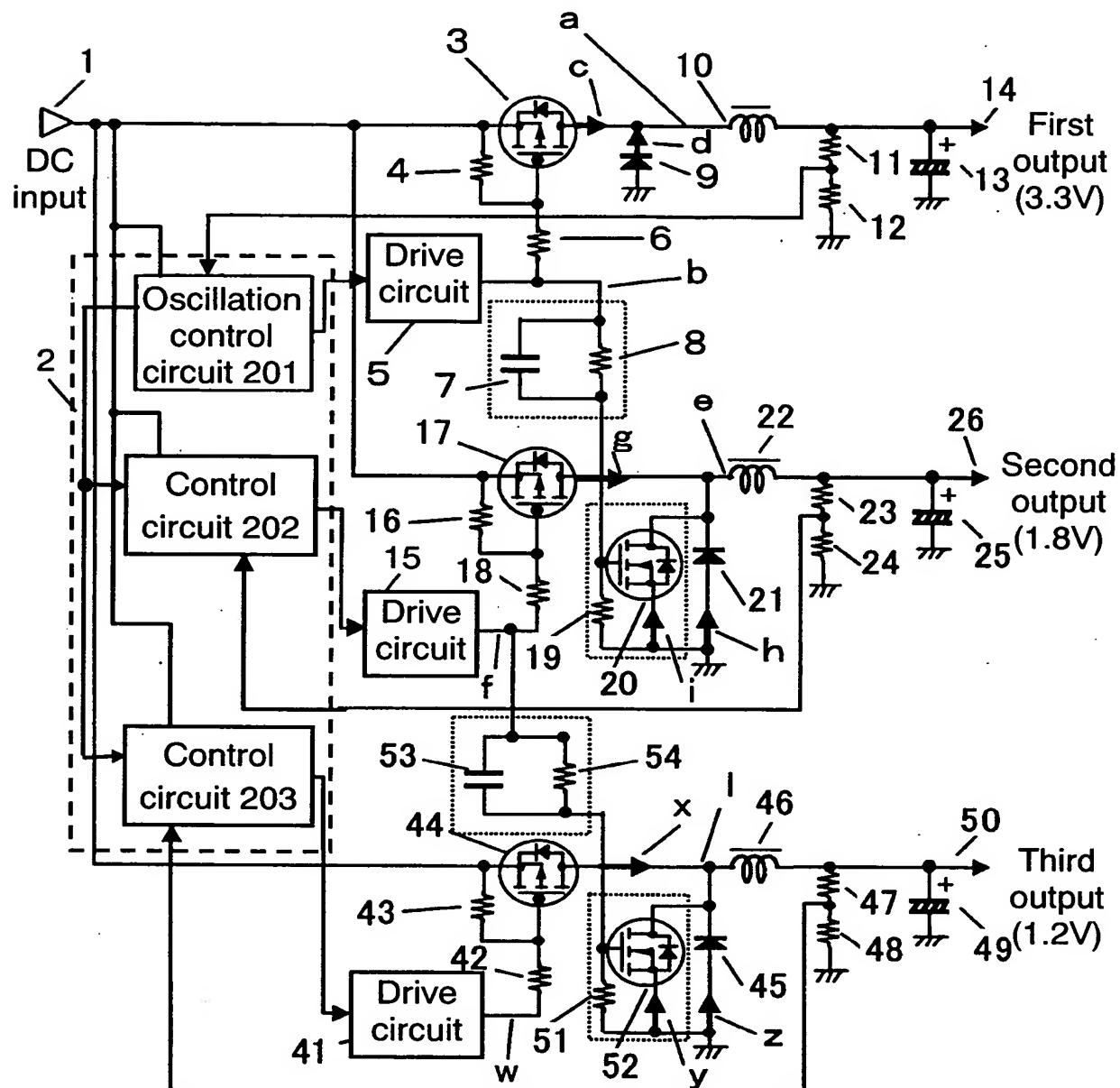


FIG. 2



3/6

FIG. 3



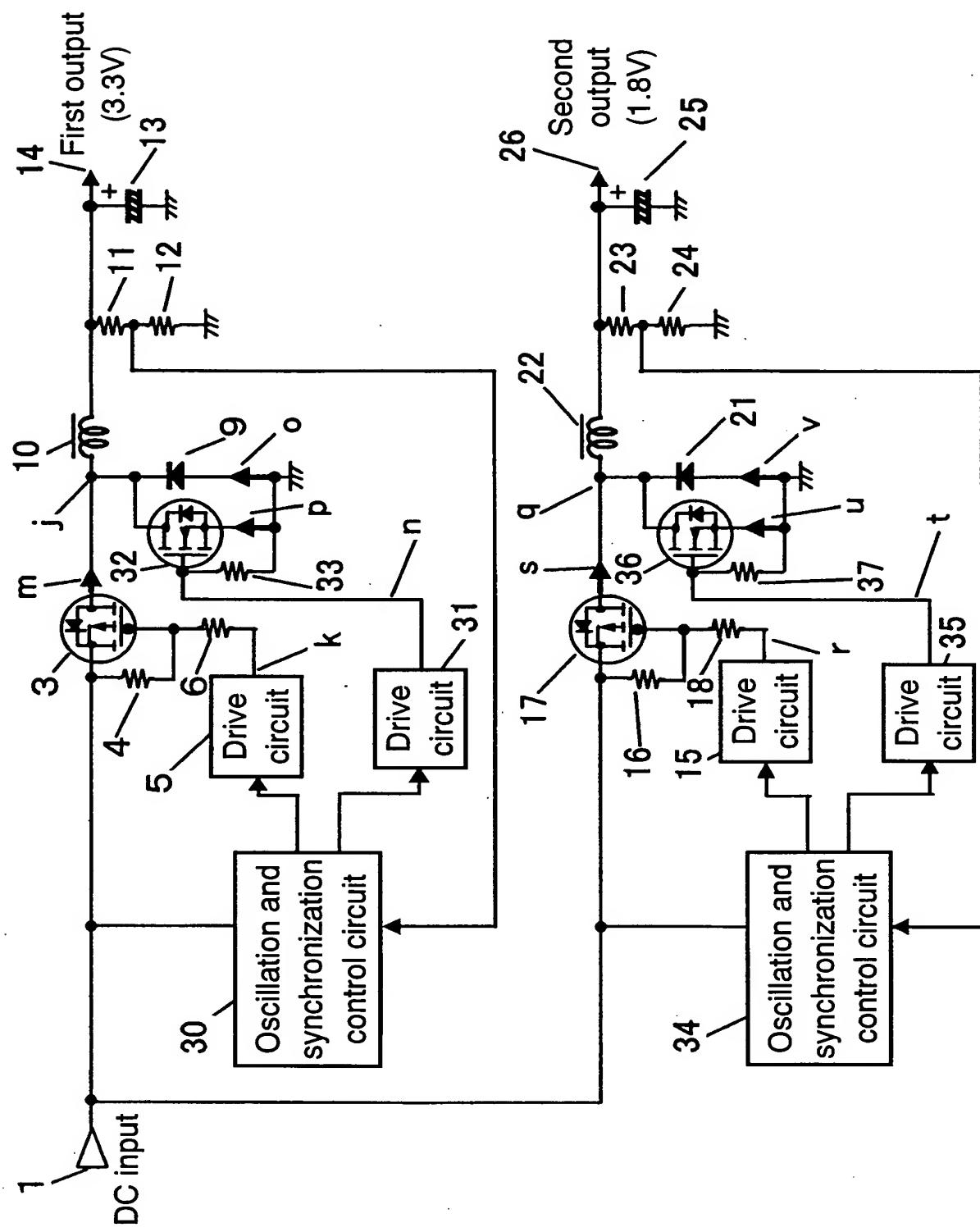
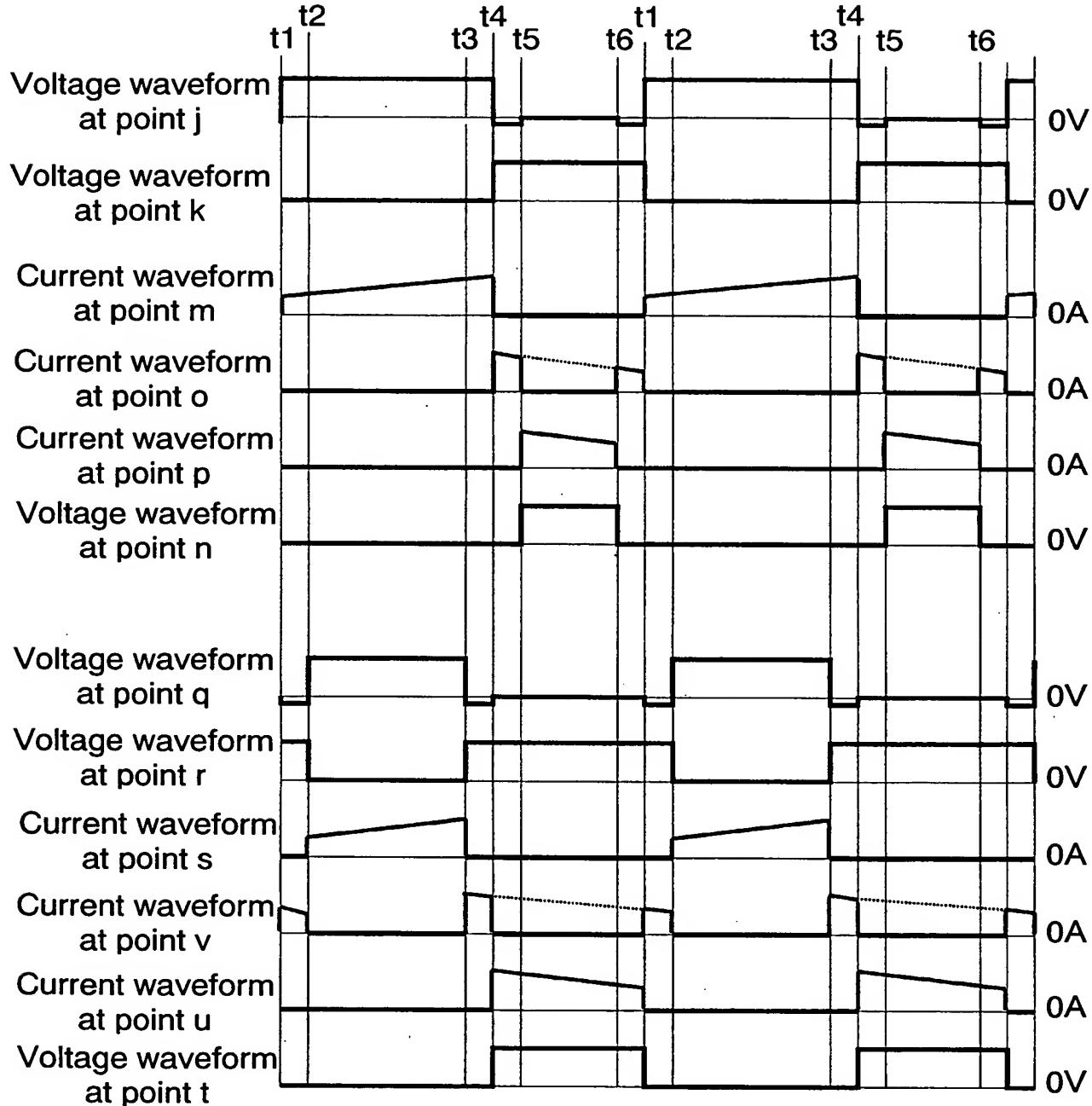


FIG. 4

FIG. 5



6/6

Reference Marks in the drawings

- 1 DC input
- 2 oscillation control circuit portion for controlling multiple-output channel
- 3 P-channel MOS-FET that is first switching element
- 4 resistor
- 5 first drive circuit
- 6 resistor
- 7 capacitor (for waveform shaping circuit)
- 8 resistor (for waveform shaping circuit)
- 9 first diode
- 10 first coil
- 11, 12 first detection resistor
- 13 first smoothing capacitor
- 14 first output (3.3V output)
- 15 second drive circuit
- 16 resistor
- 17 P-channel MOS-FET that is second switching element
- 18, 19 resistor
- 20 N-channel MOS-FET that is third switching element
- 21 second diode
- 22 second coil
- 23, 24 second detection resistor
- 25 second smoothing capacitor
- 26 second output (1.8V output)
- 41 third drive circuit
- 42, 43 resistor
- 44 P-channel MOS-FET that is fourth switching element
- 45 third diode
- 46 third coil
- 47, 48 third detection resistor
- 49 third smoothing capacitor
- 50 third output (1.2V)
- 51 resistor
- 52 N-channel MOS-FET that is fifth switching element